

AMERICAN FARMER.

RURAL ECONOMY, INTERNAL IMPROVEMENTS, PRICES CURRENT.

"O fortunatos nimium sua si bona norint
Agricolae." VIRG.

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AGRICULTURE.

[In a country situated as is Kentucky, so remote from the sea-board, the animal and vegetable produce of which is so infinitely beyond its internal consumption, it becomes a matter of primary importance to trace out the best mode of disposing of the surplus to our neighbours, many of whom materially depend upon us for a steady supply; for instance, the great eastern cities, for beef cattle; Virginia for hogs, Carolinas and Georgia, for horses and mules, New Orleans for flour, whiskey, &c. and Europe for tobacco.

The improvement in the breed of cattle, holds a rank in point of importance, fully equal, if not superior, to any other object, in the consideration of the Agriculturist. When it is demonstrated, that a steer of the improved breed will bring at three and a half years old, double as much money as will one of the common breed at four and a half years old; the farmer will not hesitate to pursue his true interest, by improving his stock.

The object of all grazing, of all farming is profit; the great object to be obtained, in the produce from cattle, is first, MILK, secondly, BEEF. The uniting of these two products in the same animal, and the greatest quantity, from the least food, seems the ultimatum of breed.

With a view to bring this subject before the enlightened and enterprising agriculturists of Kentucky, the following papers are collected and submitted to the public.]

History of the origin of the English Cattle, now in Kentucky, taken from the Kentucky Gazette, of August 9, 1817.

MR. NORVELL—We are informed in a late Reporter, that there are some English cattle on their way to this neighbourhood for breeders. We congratulate our agricultural friends on this accession of real wealth to our state, the citizens of which only want to be apprized of the advantage of crossing the breed of their common cattle with the English, to realize it.

Having some little knowledge of the origin of the English cattle now in the state, I have thought it would not be uninteresting to the public to communicate it, imperfect as it is, soliciting a like publication to any gentleman of such facts, relative thereto, as he may be possessed of. In England, where great attention is paid to rearing all kinds of stock, and where agriculture in general is brought to greater perfection than in any other part of the world, they take particular care to keep their different breeds separate and distinct, and hence the precision and particularity of the pedigrees of their stock.

Thirty or forty years ago, old Mr. Patton purchased an English bull, of the long horn or beef breed; himself and neighbours residing on the south branch of Potomac, in Virginia, bred from this bull, with the common cows of the country. Some years afterwards the same gentleman procured a full blooded bull and cow of the short horn, or milk breed, the cross of the milk and the part blooded beef breed, produced very fine and large cattle, which are known in this state as Patton's breed.

About this time, Mr. Miller, of Augusta county, Virginia, imported a bull of the beef breed, and a cow of the milk breed, and afterwards purchased an imported bull of the milk breed.

The first English cattle brought to Kentucky, were of Patton's stock, being mixed or crossed with the beef and milk breed; and indeed this stock is the great basis of the English cattle in this state. Mr.

Harrison of Clarke county, got a bull from Miller's stock in Virginia; the cross of this bull and Patton cows, produced very fine animals. Then came Smith's celebrated bull, also from Miller's stock; and lately Mr. Inskeep, of this county, has got out two very fine bulls from Virginia, (a brindle and a red) the brindle of Miller's stock; it is not known from what particular stock the red one comes. Mr. Harrison had a bull and cow that he called the Carey breed, which is not much esteemed. Messrs. Huthcraft and Welton have a very fine bull called the Shaker. All the English cattle in Kentucky, it is believed, have their origin from the above. Any gentleman however, possessing other or more information relative to this subject, will oblige many friends to agriculture, by publishing the same in some newspaper in this state.

From the stock we now have, with proper attention to keep, and the selection of males, we may safely calculate upon producing as fine cattle as any in the known world. A judicious crossing with the late imported ones, will tend vastly to accelerate this desirable object.

Lewis Sanders, Captain William Smith, and Dr. William H. Tegarden, being anxious to improve the breed of their cattle, forwarded an order to England about twelve months ago, for six young bulls and six heifers, with particular and specific instructions to select two pair of each of the following breeds, for breeders, viz. Two pair of the *Tees Water*, celebrated for their beautiful forms, arriving to perfection at an early age, carrying the flesh and fat on the desirable points, and very famous for giving large quantities of rich milk.

Two pair of the *Long Horn* breed, notoriously the most beautiful cattle in all England, being the breed that *Bakewell* selected to make his improvements on, and was Mr. *Princep's* breed, who in 1809, refused 1500 guineas for the season of one of his bulls to only 30 cows; this is the breed, known in Kentucky as the *beef breed*, although the cows do not give as much milk as the *Tees Water* or *Holderness*; yet it is of a very rich quality, as will be seen by reference to experiments made at the dairy of the Earl of Chesterfield, in May and June, 1807 and 1808, now published with these papers.

Also, two pair of the *Holderness*, or milk breed.—This breed is notoriously the best for milk, of any known in England, and is so classed by reference to experiments made as above. This is the breed of cattle that the cow-keepers in and near London, keep to supply that great city with milk; there were no less than 8500 cows in the year 1798, kept for that purpose, which produced a clear profit to the cow keepers of 240,833 $\frac{1}{2}$ sterling, or \$1,069,300, and the whole money paid for milk in one year, by the inhabitants of London, amounts to the enormous sum of 481,667 $\frac{1}{2}$ sterling, or \$2,140,000.

The order for these cattle was sent to the commercial house of Buchanan, Smith, & Co. Liverpool, without limit as to price, ordering a selection of the best young cattle that could be procured for breeders; if the prime or first cost exceeded thirty guineas each, the order was to have been curtailed to half the number of cattle, but still instructed to procure the best that could be had. They employed a Mr. Etches, to go into the counties producing the best cattle, to make purchases and selections agreeably to the order. Annexed is the invoice, &c.

Invoice of cattle shipped on board the Mohawk, for Baltimore, consigned to Messrs. Hollins and M Blair, Merchants there.

1 bull from Mr. Clement Winston, on the river Tees, got by Mr. Constable's bull, brother to Comet.

1 do. Holderness' breed, of Mr. Scott, out of a cow, that gave 34 quarts of milk per day, large breed.
1 do. from Mr. Reed, West Holme, of his own old bull.
1 bull Holderness breed, from Mr. Humphreys, got by Mr. Ware's bull, of Ingleton.
1 do. Long Horned breed, by Mr. Jackson Kendall, out of a cow that won the premium.
1 do. Long Horned, from Mr. Ewartson, Crosby Hall, is of a very fine fat breed.
1 Heifer, from Mr. Wilson, of Standross, Durham breed.
3 do. from Mr. Shippman, by the river Tees, his own breed.
2 do. Long Horned breed, from Mr. Ewartson, Crosby Hall, of the Westmoreland breed.
Cost, delivered on board the ship, 345 $\frac{1}{2}$ 14s. 5d. sterling, or \$1536 50

This money was sent from Kentucky to New York when exchange was 8 per cent in favour of New York, and 8 per cent in favour of England, making 16 per cent.
Freight and all expenses to Baltimore, 245 00
1550 00
3331 50

Insurance could not be effected under 33 1-3 per cent. 1110 50
Expenses from Baltimore to Kentucky, 500 00
4942 00

Insurance out to Kentucky, being greater than across the sea, one having died, and another lame, and left in Maryland, say 33 1-3 on \$4242 1647 33

6689 33
Commissions to Agents, and Postage, 100 00

6589 33
Cost of each, \$557 44

Extract of a letter from Buchanan, Smith & Co. dated Liverpool, March 11th, 1817, received 25th April, 1817.

"We therefore write to say that we have now got all your cattle down, and we have engaged room for them by the *Mohawk*, which after carefully examining every ship we considered the most desirable, and as reasonable as any; but we clearly see these animals will cost you a heavy sum ere they are landed in America, and under this impression we shall take every precaution to ensure their safety, even at additional expense, so that no possible disappointment may accrue to your friends, that foresight here can prevent; with this view we give a preference to the *Mohawk*, the captain of which vessel has been accustomed to carry cattle, and we have arranged with him the following terms:

At the expense of the ship he has erected separate stalls for every beast, with the planks placed so, that in rough weather, they would not be scratched by the ship's rolling; the vessel having one deck, their is abundance of room in this temporary stable, and which is made immediately under the hatchway, for the purpose of giving sufficient air, and a cover is made therefore, open at the side, so that in fine weather it can be off altogether, and in wet weather it can be put on, to exclude the wet and admit the air, and for their accommodations, room for twenty pipes of water, ten or twelve tons of hay, potatoes, and turnips, and ship's provisions, for a man to go out with, and take care of the cattle. You are to

pay on their arrival in Baltimore, be the cattle dead or alive, at the rate of 24 $\frac{1}{2}$ sterling per head, leaving also the casks. In lieu of any charge for provender, and the man's passage, and also in full for freight, we have further agreed to give the captain one guinea per head for every beast delivered alive, and to the man we have engaged to go out, we are to give 30s. per head, for every beast delivered alive, and 21s. per head for such as are not; this is to be in full for his trouble; and he is to be at liberty when the cattle are landed at Baltimore; his passage you will observe has already been provided for. This man has driven the cattle from the North here, and seems to have an attachment for them, on which account, as also from the circumstance of his knowledge how to treat them, and his attention to them hitherto, we give him a preference, nor do we see that it would be prudent to allow them to go out without some proper person to take charge of them. The first cost of these cattle averages about 15l. 10s. each. We have had considerable trouble, and taken much pains in this concern, and it will be as great a mortification to us to learn that they do not get out safe, as it will afford us pleasure to hear they do, and are approved."

Extract of a letter from Mr. John Hollins, dated
BALTIMORE, May 2, 1817.

"I had this pleasure, on the 19th and 30th past, chiefly on the subject of your cattle, expected from Liverpool; they were landed yesterday, all in very good

order, and under the eyes of many spectators, who were much pleased with their appearance, and much credit is due to the captain, and a Mr. John Row, under whose immediate charge they were placed, and I keep him to attend to them until I hear from you; indeed, if he can be prevailed upon, he ought to be employed to accompany them to Kentucky; he appears attached to them, and without him, you may suffer much in driving them. He says he had the charge of them to Liverpool; and also told me yesterday that he had not a change of clothes for six weeks, owing to his constant attention to them day and night; and if any judgment may be formed from the appearance of the cattle, he may be believed. If you do not send some one or more to take charge of them, I shall offer him ten dollars per month, and pay his expenses. I do not know that he will be satisfied with these terms, nor will I finally agree on any, until I hear from you. They are now in the country, in good quarters. Mr. Clay's are with them, and John promises to see them frequently. The freight is monstrous, but must suppose better could not be done. You have, however, been exceedingly fortunate in their delivery, and if care be taken of them to Kentucky, I shall flatter myself they will ultimately pay you with interest. John says the cows are all with calf; he has the date, &c. so that you may calculate on an increase in six or seven months; he thinks they ought all to be shod, which he can do, or will attend to seeing it done."

From Dr. Mease's Archives of Useful Knowledge.—Vol. I.

EXPERIMENTS MADE AT THE EARL OF CHESTERFIELD'S DAIRY,

Bradby Hall Farm, in the months of May & June, 1807 & 1808.

TABLE 1st.

Showing the Produce of three Milkings of each of the stated Breeds & Crosses.

PRODUCE OF THREE MILKINGS.

BREEDS AND CROSSES.	Milk.		Cream.		Butter.	Milk.		Pressed.	Cheese Curd.
	qts.	pts.	qts.	pts.		qts.	pts.	lbs.	ozs.
Holderness - - - -	29	0	2	0 $\frac{1}{2}$	38 $\frac{1}{2}$	29	0	8	5
Long Horn - - - -	19	0 $\frac{1}{2}$	2	0	26	19	0 $\frac{1}{2}$	7	3 $\frac{1}{2}$
Devonshire - - - -	16	1	1	1	28	16	1	5	9 $\frac{1}{2}$
Alderney - - - -	19	0 $\frac{1}{2}$	1	1	25	19	0 $\frac{1}{2}$	8	8 $\frac{1}{2}$
Devon and Holderness Cross -	25	0	2	0 $\frac{1}{2}$	32	25	0	8	3 $\frac{1}{2}$
Devon and Long Horn Cross -	28	0	1	2	29	28	0	9	0
Devon and Alderney Cross -	12	0	1	0 $\frac{1}{2}$	21 $\frac{1}{2}$	12	0	5	0

TABLE 2d.

Showing the Produce of five Quarts of Milk, taken from the Milkings of the different Cows of each of the stated Breeds and Crosses.

BREEDS AND CROSSES.	Milk.		Butter.		Milk.	Pressed.	Curd Cheese.
	qts.	ozs.	qts.	ozs.		lbs.	ozs.
Holderness - - - -	5	7			5	2	4
Long Horn - - - -	5	6 $\frac{1}{2}$			5	2	6
Devonshire - - - -	5	8 $\frac{1}{2}$			5	2	9 $\frac{1}{2}$
Alderney - - - -	5	9 $\frac{1}{2}$			5	2	4
Devon and Holderness Cross	5	9 $\frac{1}{2}$			5	2	10
Devon and Long Horn Cross -	5	8			5	2	9 $\frac{1}{2}$
Devon and Alderney Cross -	5	9			5	2	4

The Breeds and Crosses placed in Rotation according to the quantity of Food they eat.

- | | |
|---------------------------------|--------------------------------|
| 1st. Holderness. | 5th. Devonshire. |
| 2d. Devon and Holderness Cross. | 6th. Devon and Alderney Cross. |
| 3d. Long Horn. | 7th. Alderney. |
| 4th. Devon and Long Horn Cross. | |

REMARKS ON THE CROSS BREEDS.

The Devon and Holderness crossed, produce a valuable stock, (very much resembling the Hereford) of a large size, hardy, kind feeders, and the meat of an excellent quality.

The Devon and Long Horn cross are not so large as the former, but very hardy, are kind feeders, and the meat of a good quality.

The Devon and Alderney crossed, produce a very valuable stock; they are of a moderate size, much improved in symmetry, hardy, have a great propensity to fatten at an early age, when upon indifferent food, and the meat very rich.

The land upon which the above experiments were made, is of a middling quality, a mixed soil, and well watered.

Remarks by Dr. Mease.

The Editor is indebted for the above paper to an attentive correspondent near London. The Earl of Chesterfield has not been prominent among the amateurs at the Smithfield or Woburn cattle shows, but the above statement evinces his attention to the important subject of the dairy, and displays the judicious principles upon which he conducted the experiments. The determination of the question of the comparative excellence of the various milk breeds in England, or in any country, is highly interesting, and the trouble requisite to insure accuracy in the result, amid the numerous avocations of a farm, can only be duly estimated by those, who have a practical knowledge of the difficulties attending such experiments. The ascertaining the quantity of food eaten by each cow, during the time the experiments were carried on, were essential to the object in view and in all such experiments, or of fattening, ought never to be omitted. It is to be regretted, that the Sussex or Suffolk polled breed of cows, which stand high as milkers in England, had not been permitted to compete with the others on the occasion. The result of the experiments proves the propriety of the selection of the Devon and Alderney breed, by the Cattle Society, in the premiums offered by them for imported milk breeds of cattle.

On English Cattle, by Dr. Mease.*

The following letters from Mr. Nicholson and Mr. Chandler are important, as coming from men of well known respectability and scientific breeders; who have repeatedly gained prizes at the Smithfield and other cattle shows, for the fine stock they have raised or exhibited. They are answers to letters, written for the purpose of bringing to the point the question of the vaunted superiority of English cattle, for which the extravagant prices that are given, justly astonish the American farmer.

The breed of Mr. Nicholson must certainly be a great acquisition in any country, on account of their quick maturity, and the disposition to throw flesh and fat on the most valuable parts; and that American would deserve richly of his country, who would introduce it into the United States; but the candid statement of Mr. Chandler, and that of Mr. Knight, satisfy me, that the Hereford cattle, so much boasted of, are not so profitable as the common stock of our northern states, which when fattened in our state, daily grace our market, and excite merited applause from the stranger.

Upper Darby, Delaware County, Oct. 25, 1807.

SIR,—In the "Globe" of May 9, 1807, it is stated, that you have sold your fine bull, for which premiums had recently been obtained from the York and Otley Agricultural Societies, to Wm. Downing, Esq. for one hundred guineas.

To an American farmer, this sum appears highly extravagant, for although the grazier and dairy-man are as well paid for their beef and butter in this part of the United States, as in any country: yet I will venture to say, that your bull might have remained to the day of judgment, if here, without bringing one quarter of the above sum, unless his immense size and extraordinary fatness would be likely to have reimbursed the butcher.†

Presuming that the breed of the bull you sold possessed some particular good qualities, I shall deem myself much indebted for some information respecting him. I especially wish to know in what way the purchaser is to be reimbursed, or to obtain good interest for his money; because I take it for granted, that farming in England is not pursued upon the principle of sport or fashion, by the majority, but that the object is to obtain as good a return as possible from the land. I am by no means ignorant of the high value set upon particular breeds in England, but I am well convinced that a false judgment, and an imaginary value placed upon them, occasion the high prices at

* Archives of Useful Knowledge, Vol. I.

† This was strictly true at the time the above letter was written, and even now, the spirit for improving our breed of cattle, is only commencing in Pennsylvania.—December, 1810.

which they sometimes sell. A wealthy man may indulge his whim in giving five hundred guineas for a ram, cow, or bull, because they may be of a certain shape, which this or that great breeder and improver has declared to be perfection; but the honest hard-working cultivator, will reflect before purchasing, and ask himself, will the ram give me finer wool, or better mutton, than one which I can buy for one of two guineas? Will the cow give me more milk than my own? Or will the bull enable me to raise a stock of kindly-working, easily-kept, fast-walking oxen, which, after having done my ploughing for three or four years, will furnish tender and fine-grained beef, marbled with fat on the ribs, rumps and surloins, after one summer's grazing? In forming an opinion of the real value of the above animals, these considerations force themselves upon us, and I wish you to attend to them, in the answer I hope to receive from you.

I do myself the pleasure to send you the copy of the premiums proposed by the Agricultural Society, and shall also, if our communication be not cut off shortly, forward the first part of our transactions.

Accept my respects,

JAMES MEASE.

Mr. John Nicholson. Gipton, Yorkshire.

ANSWER TO THE FOREGOING.

SIR,—I received your letter dated 25th October 1807, requesting me to give you particulars respecting the bull I sold, which I will endeavour to explain to the best of my abilities. The first question you ask is easily answered: the purchaser will receive above one hundred guineas for cows this year, at one guinea each; and there is little doubt but he will do as much for another or two to come; therefore, he will be soon reimbursed, and receive good interest for his money.

You will think that valuable beasts in England are easily to be met with; but it is astonishing the slow progress the breed of cattle makes. I perfectly agree with you, that it is not the high price that makes them better: but their value is so well known amongst experienced farmers, that they will neither sell nor let either cow or bull without a good price. To the butcher in Leeds the difference is material; there is no less than five pence per pound difference in the price of meat in the same beast, and it is very common to see two, of seventy stone each, one of which is worth more by six or seven pounds than the other, by having his chief weights in the carcass or middle, as we call it here, such as the crops, † ribs, surloins, rumps, flanks, &c. which are worth at this time nine pence per pound; the coarse parts (which are light in this sort of animal) about four pence: the other sort of beast is very light in all these valuable parts, but heavy in his neck, shoulders, thighs, &c. with a large head, and great bones, and very little fat on any part: It is well known there is this difference in two steers or oxen. I hope it will be allowed, that a valuable bull must be a great acquisition in a neighbourhood. The bull you mentioned weighed one hundred and sixty stone, fourteen pounds to the stone, alive. ‡ Supposed to weigh one hundred and ten stone his four quarters, † then three years two months old. He stood on very short, small legs; his breast very great: looks fine; horns the colour of cream; crops, surloins and rumps very flat and quite level, so as that a line would touch them all; his flanks very great, dropping down with the lowest part of his belly. I have a painting of him, which cost seven guineas, and am strongly solicited to have a print. If I can get as many subscribers as will pay for the plate, I will make you a present of one, if you will accept it.

I will take the liberty to relate to you how I came by my breed of cattle. Six years ago I rented a farm, sixty miles north from here, in the North Riding of Yorkshire, where, for a few miles round, including a part of the county of Durham, prevails without any doubt, the best breed in England. One of the first improving breeders, is Mr. James Brown of Albrough,

near Richmond, whom I had the good fortune to get very intimate with, so as not only to improve my breed, but convince me of its great superiority. As a proof of the perfection of his cattle, I give you the following instance to judge of. In November, 1803, I sold six beasts all of his own breed, then three years and a half old, for two hundred and thirty pounds seven shillings; or thirty-eight pounds eight shillings each. They were slaughtered at Leeds, by Mr. William Arton, and his book will certify, they weighed ninety-four stone each, 14 lbs. to the stone, the four quarters.* The hides were sold for three guineas each. Tallow from nine to ten stone each.† This price was rather better than eight shillings per stone, sinking the offal; the general run of the market that day was from six to seven shillings per stone, notwithstanding the butcher does to this day acknowledge them cheap. There is another great advantage attending the improved breed of cattle which is, that of easy calving: the cows in general are formed wider in those bones, and the calves have small heads and bones. I have kept thirty cows the last six years, and can say with confidence, I never had any difficulty, and very seldom any assistance to afford them; but where the old breed still prevails, half a village is called together at a cows calving, and very probably either the one or the other is lost. There is a disorder prevails much here, which is commonly called the milk fever, and numbers of cows die of it. They generally are attacked with it at from four to ten days after calving. I believe it arises from want of proper treatment. The common farrier or cow doctor is sent for, and gives a hot, or what he calls a comfortable drink, which generally terminates with death. I have tried a very simple experiment, for these six years past, as a preventive of this disorder. A few days previously to calving, I give the cows linseed cake, and when calved, give it to them twice a day, for three weeks or a month, or till there is no danger of the disorder taking place. From its coolness and easy digestion, I firmly believe it prevents the disorder. In my number of cows for the last six years, I have not lost one; and some of my acquaintance, who have taken the trouble to try that experiment, are of the same opinion. I shall find great pleasure if this, or any other remark I have made, be of the least service to you or your society.

I have the honour to be, Sir,

Your obedient servant,

JOHN NICHOLSON.

Gipton, April 12, 1808.

James Mease, Esq. Sec'y, to the
Agri. Society Philadelphia.

The following is part of my reply:

From the account you give of your bull, he must certainly have been a noble animal, and his good qualities entitled him to the high price at which he was sold. His breed would be an acquisition in any country. But I still much question whether such a price would be warranted in the United States, except in the new settlements, where the raising of stock is a great object.‡ The truth is that if we have not such superior animals, we happily have not that bad breed of which you speak, which are difficult to fatten, and that often suffer in calving. Our cattle at four years and upwards, weigh from 500 to 1200, with one wintering on hay, and a summer and autumn grass; and as to cows it is a very rare circumstance that they require any assistance at calving. In four years, only

* 1316 lbs.

† 126 to 140 lbs.

‡ This is a general remark, and true, when applied to the purchase of stock for breed, with an expectation of profit. Individuals in different states, however, have occasionally given higher prices, when anxious to improve. Thus the late Mr. John O'Donnel and Mr. Patterson, of Baltimore imported a Bull and two Cows from the successor of Bakewell, which cost when landed in America \$2000. Four Cows from Amsterdam cost \$602.89. Upon the death of Mr. O'Donnel, the stock were sold, and brought from \$150 so \$200 per head, at public auction, in Nov. 1805.

one of my cows out of eight, experienced any difficulty, and in two calvings since have not had the least trouble. § The fathers of my farmer and of his wife, who keep many cows, and several others whom I have consulted, agree that difficult births in cows rarely occur. No medicine is given before calving, nor afterwards, unless the cow does not cleanse speedily, in which case it is a general practice to give the same remedy you recommend, viz. flaxseed, but in infusion, with a mess of warm water and bran. How these act, I do not know, unless the genial warmth they excite causes the separation of the membranes. But the success of them I can vouch for, and it is singular that the same remedy should be resorted to in both countries.

Our beef is of the first quality, off grass, and highly marbled, sells readily for 10d, 11d. and 12d. per lb. and late in the winter, or in the spring, if stall fed, with Indian corn meal and potatoes, (turnips are never used) 14d. 15d. and 22d. are obtained. The great object with the butchers is, to kill cattle which diffuse their fat through the muscles, and our graziers know well the forms that have that disposition, and that thrive quickly. They uniformly refuse to purchase of the drovers the long legged, narrow rumped animals, (which however are now seldom seen) although formerly common, and that still go by the name of the "English breed," probably owing to the importation many years since, of the old bad breed you notice, before the improvements had taken place in English stock. With the view of knowing what forms of cattle are in highest estimation in England, our Agricultural Society imported "Scott's prize cattle," and we were surprised to find none of them differ from what we every day see in this state, except in the article of South Down sheep, which we have not. I have myself a pair of working oxen quite as handsome as those represented in Scott's work.—Hence we conclude, that the common breed in England must be bad indeed, when such oxen as are common here, carry prizes at Cattle Shows. The fact of the scarcity of good cattle is confirmed by yourself and it is really singular, that they should not abound, considering the length of time that has elapsed since the spirit of improvement began. Bakewell was known for his attention to the subject, and for the superiority of his cattle full forty years ago, and he was preceded by Webster, and one or two others.—Since then, numerous improvers have appeared in various parts of the kingdom, and yet it seems to be necessary to stimulate farmers by high premiums, to adapt breeds which their own interest ought to lead them to propagate. Prejudice must certainly operate with much greater force in England, than in the United States, otherwise fine cattle would be much more plentiful than it seems they are at present; and royalty and nobility would not be required to mix with the crowd at Smithfield to break the force of habit and to show by a comparison of good and bad breeds, what the farmers themselves ought long ago to have found out. Without wishing to eulogize my countrymen undeservedly, I must say, that had they enjoyed the same advantages in respect to Fowler, Bakewell, Paget, and other scientific graziers, our cattle would long since have arrived at their acme of perfection, and even under present circumstances, we are making rapid strides, for it is only necessary to show that it is our interest to change our breeds, and the change is made without delay. We have none of those strong prejudices, which cause men to shut their eyes to improvements, from a supposition that their own stock is superior to all others. ¶ They are not kept back by the amount of first advances, provided they see a chance for return of good interest,

§ Dec. 1810.—No difficulty has occurred since the above date.

¶ The British Agricultural writers generally allow that this prejudice is the great obstacle to improvement in England. The writer of the report on agriculture of Westmoreland, drawn up for the Board of Agriculture states, that a farmer, when asked what breed of sheep they had, replied, "They are sic as God put upon the land; we never change any."

‡ Chines.

§ 2240 lbs.

¶ 1540 lbs.

a consideration which duty to themselves and families require an attention to. They do not deem it right to gratify whim, or pay highly for mere beauty of form. A few examples shall be given in point.—An English merchant residing in this city, some years since, imported a cow from England, of the Teeswater breed, at a great price, and soon afterwards wished to dispose of her. He however could not obtain the price he asked, (\$200) but a captain of a ship bound to England, agreed to take her back free of cost, as she was then fresh in milk, and she was afterwards sold in Yorkshire to good account. Her form was good, and she herself was an excellent milker, but at the price asked for her here, she would not yield an interest equal to what a farmer would derive from the same sum laid out in 4 or 5 common country cows, or in 3 or 4 grazing steers. The want of a bull moreover, of the same breed, or of one equally good, by which her race might have been continued, was another reason for the indifference evinced towards her: for it was risking too much to wait a time to determine whether she bred after herself, or from the bull. On the other hand, the proprietor of several rams of the true Dishley, or new Leicester breed of sheep, at New Brunswick New Jersey, finds no difficulty in letting them for \$150 and \$200 per year, to farmers, within 50 miles, because they have found out that their descendants fatten with great ease and are firmly formed, while the American breed of sheep are difficult to fatten, and are long-legged and narrow rumped, and because the lambs of the former will bring from 3 to \$4 at three months old, while those of our own breed will only sell for half that sum, I have crossed the ewes of the Dishley breeds with the merino for the purpose of improving the form of the latter. Col. Humphreys sells his full blood merino rams readily for \$100, because the wool brings \$1 33 cts. per pound. Thus when value is returned, capital is freely advanced. * * * *

P. S. Dec. 1810. During the present year, 500 700, 1000, and even as high as \$1500 were repeatedly given in N. York for merino rams, which shows that the American improver is not deficient in spirit when objects present themselves that are likely to remunerate the adventurer. At present the great influx of merinos has diminished the price, but it is highly probable that they will continue at \$100, and at that price no farmer should hesitate a moment about purchasing.

KEEP AND PRODUCE OF A COW.

One acre of very good pasture (says Mr. Conyers,*) will suffice for a cow; of middling pasture, one acre and a half ton of hay, or rather less, will be consumed by each milking cow in the winter months. Upon an average ten cows give five pounds of butter per week in summer, and two dozen in winter, and a profit of 134 12s. per cow is sometimes made in a year.

ON THE PRINCIPLES

OF IMPROVING

THE BREED OF DOMESTIC ANIMALS.

BY DR. MEASE.†

Every one whose opportunities have permitted, must have remarked, that the agriculture of Pennsylvania has very materially improved in the course of the last twenty years. This change has been effected by the free use of lime, gypsum,‡ and the introduction of green and root crops, and their alternation with those of grain, by which means abundant food for all domestic animals is furnished, manure rapidly accumulated, and the strength of the land

kept up. It cannot however, be denied, that in all kinds of farm cattle, there is much room for improvement, and that in respect to fine neat cattle, our deficiency is very great. With a view therefore to assist those who are anxious to undertake the important and profitable measure of improving their stock, the following hints are given. They are the result of remarks by professed breeders and improvers in England, tested by the experience and observations of the editor, and other members of the Cattle Society of Pennsylvania.

Until about fifty years since, no attempt had been made to change the state of farm cattle in England. Before that time, no country possessed animals of worse forms. Size was the only object of consideration, and form was never taken into view. Hence large big boned, coarse headed, narrow rumped animals were the fashionable stock of the day. Some of these worthless beasts were imported into the United States before the revolutionary war, but they are now happily extinct. They are still abundant in England, as appears by Mr. Nicholson's letter.

A few ingenious and observing men, perceiving the loss sustained in feeding such animals, commenced the attempt to alter their forms, selecting and breeding from what they deemed the best shaped, without regard to bulk. Mr. Bakewell of Dishley, in the county of Leicester, continued to advance the desirable properties of the race upon which the experiment was first made, and since his time, others have followed with great success, and have found out in what respects, even the favourite forms of that original character might be altered for the better.—“Mr. Bakewell, after breeding in and in through a great number of descents, ever selecting individuals of the roundest form, and smallest bone, raised that variety which has been since so celebrated for aptitude to acquire external fat. But in the attainment of this end, he sacrificed the quality of great milking, and rendered the animals less certain in faculty of procreation.” The fat moreover, not being diffused through the flesh, but laying in thick layers externally, was a great objection, as much waste necessarily ensued in cooking. The same thing occurred in the Bakewell or Dishley sheep, on the ribs of which the fat has often measured seven inches, while the flesh was not one inch thick. These defects led to further experiments, and occasioned the origination of other breeds.

The first object that naturally offers to be attained, is the possession of a breed of cattle, which with a given quantity of food will afford the quickest and greatest return of the most valuable parts of flesh, or of milk or butter. After repeated experience and close attention to the subject, by European improvers it has been found that so far as flesh is concerned, there are certain forms and proportions of body intimately connected with the great object in view, and these shall now be detailed.

1. Of a bull. The head should be rather long, and small, muzzle fine,* chaps clean, eyes lively and prominent, ears long and thin, horns tapering bright and spreading, neck fine, rising with a gentle curve from his shoulders, and small and fine where it joins the head, progressively leading down to a full and deep bosom, shoulders moderately broad at the top, joining full to the chime, (crops) and chest, breast broad and projecting well before his legs; his arms or fore-thighs muscular, and tapering to his knee; his legs clean, straight, very fine boned, and standing wide; his chime and chest so full as to leave no hollows behind the shoulders; the plates strong to keep his belly from sinking below the level of his breast; his back broad, straight and flat, his ribs rising one above another, in such a manner that the last rib shall be rather the highest, leaving only a small space to the

hips, the whole forming a round barrel-like, but capacious carcass; his hip should be wide, round, and a little higher than the back; the rump wide and lying in a horizontal direction, and not sinking backwards but even with the general level of the back; the huckle bones, (rump bones) not in the least protuberant; the tail should be thin, round, and tapering not hairy, and set on so high as to take in the same horizontal line with the back: it should moreover be broad at bottom, to prevent the appearance of the cavities at the nache, and the gristles at the setting on of the tail should rather project on each side, as they accumulate much fat in this part. The skin should be mellow and elastic, yielding pleasantly to the touch, especially on the chine, shoulders and ribs, feeling soft, though firm to the touch, and equally distant from the dry hard skin, or loose flabby feel.

As some reasons may be expected for the minuteness of this description, the following are offered.

A small head facilitates birth; if it be not lightly let into the line of the neck, and if the points of the shoulders push downward, the neck appears out of proportion, the weight or strength which ought to be in the closing or junction of the shoulders at the top is destroyed, and the end of the chine at that part is thin and hollow, and the due symmetry of the part is destroyed. An animal with a dull eye rarely fattens well. The loins being narrow and thin, and the feet standing close, are sign of weakness, and very unsightly defects: when the fore-legs approach too near, it may also be presumed from the consequent narrowness of the chest, that there will not be sufficient room for the action of the lungs, during the period of fattening, and as on their size and soundness the strength and health of the animal, and his power of converting food into nourishment principally depend, it is of the first importance to attend to the formation of the chest. If a bullock is in-kneed or the knees bent inward, the points of the toe and of the shoulder must be out, and he must be hollow behind the withers (a bad point for feeding,) and he will of necessity, be a slow worker. A hairy tail is indicative of a hairy head and large bones, and of a coarse open grained flesh, or “gumminess.”

The pelvis is the cavity formed by the junction of the haunch bones, with the bones of the rump. It is essential that this cavity should be large in the female, that she may be able to bring forth her young without difficulty. The size of the pelvis is chiefly indicated by the width of the hips, and the breadth of the twist, or the space between the thighs. The breadth of the loins is always in proportion to that of the chest and pelvis. Small boned animals invariably fatten quicker than those of larger bones, which often are the result of an imperfect nourishment during growth, and generally indicate an imperfection in the organs of nutrition. When a hide feels soft and mellow it strongly indicates a tendency to take on meat, and it is evident that a fine and soft skin must be more pliable, and more easily stretched out to receive any extraordinary quantity of flesh, than a thick or tough one. At the same time, thick hides are of great importance in various manufactures, and are necessary in cold countries, where cattle are much exposed to the inclemency of the seasons; and in the best breeds of Scotch Highland cattle, which are much prized in England, the skin is thick in proportion to their size, without being prejudicial to their capacity of fattening.

Finally, whatever be the size of the animals, just and equal proportions of length, depth and substance, are the truest indications of vigour, and of the ability of the animal to produce and stand under the greatest possible load of flesh.

By improvement of the breed of animals, Lawrence means the gradual change of form and property in their progeny, until they shall arrive, as nearly as possible, to a certain standard of presumed perfection. This is to be effected by a conjunction of male and female, of the desired species, form, and properties; some steps being gained in every procreation. The male of course, being able to multiply his likeness to such an extent, must be the prime instrument in the

* Communicated to the board of Agriculture, London.

† Archives vol. 1.

‡ For a full account of the fertilizing effects of gypsum on grasses and on other vegetables, its mode of application, &c. see the Treatise of Mr. Peters on Gypsum, the Memoirs of the Agricultural Society of Philadelphia, vols. 1—2, and the Domestic Encyclopedia, Philadelphia edition, and for remarks on lime, as a manure, see the two last mentioned works, how far the remark applies in this country.

* Lord Somerville, who does all his farm work with Devon oxen, says that with respect to that particular breed, “a black nose is often a sign of a bad constitution, of such as turn scourers, and particularly when the cast of the coat is of too pale a colour.” It may be well for the American improver to notice how far the remark applies in this country.

business; it is therefore of the utmost consequence, that he be thorough-shaped, or thorough-bred: "that is, descended from a race of ancestors, who have through several generations, possessed in a high degree, the properties which it is our object to obtain." The female ought also to be selected with the strictest care, and according to Mr. Cline, ought rather to be proportionably larger than the male, since the improvement depends on this principle, that the power of the female to supply her offspring with nourishment is in proportion to her size, and to the power of nourishing herself from the excellence of her constitution. In this particular an error is very commonly committed, the attention being confined to the male.*

Mr. T. A. Knight, of Herefordshire, objects to the principle laid down by Mr. Cline, respecting the advantages of propagating from large in preference to small females. "Nature," he says, "has given to the offspring of many animals, (those of the sheep, the cow and the mare, afford familiar examples) the power at an early age, to accompany their parents in flight; and the legs of such animals are very nearly of the same length at the birth, as when they have attained their perfect growth. When the female parent is large, and the foetus consequently so, the offspring will be large at its birth, in proportion to the bulk it will ultimately attain, and its legs will thence be long comparatively with the depth of the chest and shoulders. When on the contrary, the female is small, and the foetus so, at the birth, the length of the legs of the young animal will be short comparatively with the depth of its chest and shoulders: and an animal in the latter form, will be greatly preferable, either for the purposes of labour, or of food to mankind. I have seen this difference in the influence of the male and female parents on the offspring, very strikingly exemplified, in the result of an attempt to obtain very large mules from the male ass and the mare. The largest females that could be procured, were selected, and the forms of the offspring, at the birth, were perfectly consistent with the theory of Mr. Cline; they were remarkably large, and I observed that the length of their legs, when they were only four days old, very nearly equalled that of the legs of their parents. I examined the same animals when five years old, and in the depths of their chests and shoulders, they very little exceeded their male parent, (a Spanish ass,) but from mares of small stature, were perfectly well proportioned.†

"There is another respect in which the powers of the female appear to be prevalent in their influence on their offspring, and that is relative to its sex. In several species of domesticated or cultivated animals, (I believe in all) particular females are found to produce a very large majority, and sometimes all their offspring of the same sex; and I have proved repeatedly, that by dividing a herd of thirty cows, into three equal parts, I could calculate, with confidence, upon a very large majority of females from one part or males from another, and upon nearly an equal number of males and females from the remainder. I frequently endeavoured to change these habits by changing the males, but always without success; and I have, in some instances, observed the offspring of one sex, though obtained from different males to exceed those of the other, in the proportion of five or six and even seven to one. When on the contrary, I have attended to the numerous offspring of a single bull, or ram, or horse, I have never seen any considerable difference in the number of offspring of either sex, I am therefore disposed to

* In the case of horses, perfection consists in the "wind," and this according to Mr. Robson, an eminent trainer, at New Market, "depends on parentage, and on the female most." See Sir John Sinclair, on athletic exercises.

† It is probable that the different species of animals differ in respect to the influence of the size of the parents on their progeny. I have known a pair of noble carriage horses, got out of a diminutive mare by a large and well formed horse; while on the contrary in the case of sheep, the influence of the size of the mother upon that of the young, is certainly great.

believe that the sex of the offspring is given by the female parents.**

Mr. Knight is well known for his attentive and successful investigations of nature, animal and vegetable, and his conclusions have in this case, he says, been drawn from very extensive and accurate observation.

To obtain the most approved form, two modes of breeding have been practised, one by the selection of individuals of the same family, called breeding "in and in;" the other, by selecting males and females from different varieties of the same species, which is called "crossing the breed."

When a particular variety approaches perfection in form, breeding in and in may be the better practice in following this, however great caution is requisite in selecting the best shaped individuals. It was thus, the celebrated *Bakewell* preserved his various stock without degeneration in any of the qualities for which they were famous. But as in the U. States the origination of a breed of neat cattle, is to be aimed at, the system of crossing must be adopted, and for this end, the following rules should be attended to.

Mr. Lawrence remarks, "Individual variety of size and shape prevails in all breeds, to the infinite use and convenience of man. Some will run naturally to length and depth of carcass; others will have a tendency to the contrary form, or with much substance, wide loins and short legs. The improving breeder in joining the sexes, will take advantage of these varieties of shape or peculiar properties; increasing length or depth of carcass, when required, or moderating too great length with its opposite, with rotundity of form, and width of loin, and shortness of leg; ever having especial regard to preserving substance in the form of his stock, and to prevent the increasing length and too near approach of the legs. It is very common for the best breeds to degenerate in this way from neglect; in which case it will be necessary to change the males for others of a still shorter and more substantial form, either from the same or a kindred variety, and to pay an increased attention to the selection of females."

Disposition. "It is of great importance to have a breed distinguished by a tame and docile disposition, without however being deficient in spirit.—Such a breed is not so apt to injure fences, to break into fields, and unquestionably less food will rear, support, and fatten them. As tameness of disposition is much owing to the manner in which the animal is brought up, attention to inure them early to be familiar and docile, cannot be too much recommended." Mr. Bakewell attended sedulously to this point, and his breed of cattle retain it to this day. He kept them in stalls, and attended them with the same care that others do a favourite horse. A bull of his stock, exhibited at the cattle show, in April last, by Messrs. Ely and Eastburn, was as gentle as a cart horse.

Hardiness. "This is a most important requisite even where stock is most attended to, it is of essential consequence, that they should be as little liable as possible, to disease or any hereditary distemper, as being black fleshed or having yellow fat. It is a popular belief, that a dark colour is an indication of hardiness, and that cattle with light colours are softer and more delicate. A rough pile is also reckoned a desirable property in out-winterers."

Easily maintained. "On attention to this point, depends the profit, in a great measure, of the grazier. It is intimately connected with the shape above mentioned, and with smallness of bone." In the horse every one knows that certain shape is indicative of being easily kept, and the remark will apply to neat cattle.

Early maturity. "Arriving soon at perfection, is a material object for the breeder, as his profit must in a great measure depend upon it." Something will certainly depend upon their being fed in such a manner as to keep them constantly in a growing state; in this way they make more progress in three years than they usually do in 5; when they are half starved during winter, and the growth checked. By the letter from Mr. Nicholson, of Gipton, near Leeds,

* Transactions Royal Society, London, 1810.

in England it appears that his breed of cattle possesses this valuable requisite in a most remarkable degree. His bull, which was sold for 100 guineas, weighed 2240 lbs. live weight at three years and two months old. His fore quarters were supposed to weigh 1560 lbs. He was kept for cows, and it is probable had only common pasture, when weighed. Six beasts, three years and a half old each, sold for 38l. 6s. sterling each, or \$170,22. The four quarters of each weighed 1316 lbs. In this country, such weights would be thought great in beasts of five years old, which had been well wintered, grazed the following summer, and stall-fed in the succeeding winter.

Let the spirited breeders on our frontiers make a calculation, as to the great increase of price they would obtain from a grazer, for cattle coming so early to maturity as those just mentioned, and reflect on the profit from selling their poor cattle at two years of age, instead of five or six years; and let the grazier calculate the difference to him between keeping cattle one year, instead of fifteen or eighteen months, and the saving of some hundred bushels of corn meal by stall-feeding, and then say, whether there is not room for improvement in our stock.

Quality of flesh.—"The quality of flesh most certainly depends much upon age, and sex; heifers, for instance must be finer grained than oxen;" and the coarseness of stag beef is proverbial. The excellence of the meat also greatly depends on their food, and the nature of the soil producing it. On the whole, there is no better sign of good flesh, than when it is marbled, or the fat and lean nicely and alternately mixed with each other. The person who would, in the United States, originate a breed, in which we might always be sure of finding such beef, or who would discover the particular marks, by which such cattle might be known, would deserve one of the highest premiums our cattle society could bestow, and be otherwise well paid for his trouble.

Working. In the case of working oxen, a quick step, and strength in proportion to speed, are of the greatest importance; and that these qualities may be imparted to an ox, there can be little doubt. In England, they are supposed to have been obtained by admixture of the lighter, small boned French Norman or Guernsey breed, with some of the native breeds. Their gentleness of disposition, mildness and hardihood, also serve to recommend the French breed. When well kept, they grow to good sizes, although naturally small.* In the the United States a great diversity is found in respect to the gait of oxen; for while some are slow, others will walk nearly as fast as a horse. The formation of their fore quarters, as before noted, will greatly influence their speed. If a breed could be originated, which with the above-mentioned qualities, this of quick step were joined, a great object would be obtained, and would amply repay the breeder.

It may be asserted with safety, that in no country does the dairy man receive greater prices for his milk, butter or cheese, than in the United States; and yet it is notorious, that the cows in general are far from excellent. The abundant provisions required for the support of stock, during our long winters, ought to ensure a plentiful supply of rich milk in summer, and yet it is believed that the profit from them is much smaller than is commonly imagined. We are much more deficient in this article of farm stock, than in any other, which calls loudly for the attention of the improver. The indications of form, which so strongly characterize the profitable cattle, for beef, fail with respect to milk, as we find that some of the most excellent milk breeds are very different in external form. The surest mode of procedure for the improver is to breed from good milkers,

* In France oxen are very generally used to plough and for draught. It is probable therefore, they are more speedy in their gait, than the native breed of England, or than the common breed of this country. Some of those French breeds have been introduced into England and much admired. See Bath Memoirs, vol. ix. introduction, p. 33, and Commercial and Agricultural Magazine, Lon. vol. ix. p. 292.

that is, such as give rich milk, and if possible, from such as possess the forms approved of for bulls in the preceding pages, making allowance for the difference of sex. There are, however, some marks of a good milch cow, in every breed, which it may be useful to note, viz.—a capacious and thin skinned udder, large teats, with a large and distinct milk vein: fine head and chaps, thin neck, shallow and light and fore-quarters, capacious behind, wide loin, thin thigh and white horns. A gaunt and meagre appearance of body, promising no great disposition to fatten, is added by some as a sign of a good milker; but although good milkers are of a thin habit, yet there can be no reason why the rule should be absolute; and on the contrary, we see in Tuke's survey of Yorkshire, portraits of Teeswater cows, that must from their formation take on fat readily, and they are well known to be first rate milkers.

To show the inferiority of the produce of our cows, when compared with those of England, a few facts, shall be stated. Sir John Sinclair states, on the authority of W. Trevalyan, Esq. of Northumberland, that a well bred Teeswater cow will give on an average fourteen quarts at each of two milkings, or twenty-eight quarts per day. Some of the Teeswater breed, according to Culley, give even to the amount of thirty-six quarts per day. The cows of the island of Alderney, and other islands on the coast of France give very rich milk, though not in the greatest quantity. Lawrence says, "he was assured by a respectable friend, that an Alderney strayed cow, during the three weeks she was kept by the finder, made nineteen pounds of butter each week, and the fact was held so extraordinary, as to be thought worth a memorandum in the parish books." A cow of the same breed was imported into Philadelphia by Mr. Charles Ross, and in his possession she made nine pounds of butter every week. Cows from North Devonshire keep in good order, are hardy, their beef is fine grained, and they are so easily maintained, that one acre and a half of prime pasture is the allowance for one cow a whole year, during which time each cow will fatten five calves. A Sussex bred cow, owned by Mr. Cramp of Lewis, cleared one year 43*l.* 5*s.* 11*d.* and the 2d year 30*l.* 16*s.* 1*d.*

To those who have been contented with the common cows brought to them by drovers, or picked up in the neighbourhood, and the extent of whose travels has been from market back to their farms, and to an election ground, and who despise all information derived from books, some facts just mentioned will pass for fable; but of their authenticity there can be no doubt: the fact respecting the production of the Alderney cow may at any time be verified, and in order to be assured that it is possible to have better cows than their own, they need only visit Mr. A. Deveas, and Mr. Shukert, of Germantown near the Drover tavern, where they may see two cows which give from 10 to 12 lbs. of butter every week; and Mr. G. Hoppe, of Philadelphia, lately had a cow which gave 15 lbs. of butter a week.

These facts ought to convince every one who is anxious to make the most of his farm, of the great room there is for improvement, and should rouse him to the attempt.

The combination of the valuable properties in a breed of milk, and beef, is so important, and has been thought to be so difficult of attaining, that it has been recommended not to attempt the union, for in proportion as we gain in one point, we lose in the other. We know in general that good milkers are seldom quick feeders. The two objects have however been accomplished to a certain extent in England, in case of the North Devon cows, and in some individuals of the Kyloe or Highland breed, and in the Suffolk Duns; and there is no reason why the same success should not attend equal industry in this country. Mr. Cramp's cow, before noticed, was always ready for the butcher, but then other food besides grass was regularly given to her. It has been said indeed, by some, to be the result of their remarks, that "the cow which gave the greatest quantity of butter in a given time fed fastest when dry;" but that the remark did not apply to *thin* milkers.

It is to be regretted that opportunities for the improvement of stock of neat cattle by means of the improved breed of Europe are so few, and that even the knowledge of the existence of any among us is so partially diffused. It is understood that some very high priced cattle were imported into Maryland before and since the revolutionary war from Europe; and that within a few years past, more have been imported into the frontier parts of the State of New York, but their particular qualities are scarcely known beyond the immediate vicinity in which they were introduced. A bull from Holland, very valuable for milk and beef, was imported some years since into Philadelphia, but the original stock was killed before the full blood was obtained. His progeny however evince such qualities as lead us to consider his death as a national loss. The original sire was sent to Lancaster county, where only a few of the first cross from him remain. Six steers of his stock which were fattened in the neighbourhood of Lancaster during the year 1808, were pronounced by a competent judge to be the handsomest cattle he ever saw. The fine ox fed by Mr. Guyer, killed in Philadelphia, March, 1808, was from a cow of that breed, by an English bull, now or late in the possession of Mr. Bunting of Neshaminy.

In the scarcity therefore of good foreign breed, we must have recourse to our native stock, and it is a great satisfaction to know that there are excellent materials among us, on which they may commence the attempt. We every year see beasts of good form brought down in droves from various quarters, and sacrificed, after performing their duty for a season in a herd of cows; and which if kept as breeders would naturally improve the stock of the district. As a general rule, let no offspring be raised except from the finest boned, cleanest headed, straight backed, and best fleshed of every stock, both male and female.

A close adherence to those principles of choice at home, and in occasional purchase at markets, will soon convince any man how striking the improvement of his stock might become in a few years, and we look forward with great satisfaction to the period when the effects of our recommendation shall be shown.

Sir John Sinclair sums up the desirable qualities of cattle as follows—

1. A moderate size, unless when food is of a nature peculiarly forcing.
2. Shape the most likely to yield profit to the farmer.
3. Of a docile disposition, without being deficient in spirit.
4. Hardy, and not liable to disease.
5. Easily maintained, and on food not of a costly nature.
6. Arriving soon at maturity.
7. Producing considerable quantities of milk.
8. Having flesh of an excellent quality.
9. Having a tendency to take on fat.
10. Having a valuable hide. To which may be added. Lastly, calculated (if judged necessary) for working.

* The late colonel Pollen, a British officer, and well informed on the subject of cattle, passed through the United States in 1802, and mentioned in a note to a gentleman of Philadelphia, that he saw "a breed of cows near Lancaster, with a fine small head, smooth and delicate hair, small eye, round rib, and straight back, which would be an acquisition to England if introduced there." This remark, made by an intelligent foreigner, who was well acquainted with the improved breeds of England, ought to have its due weight, and should stimulate us to attend to the animals we meet with, which may possess some valuable properties."

COMMUNICATED FOR THE FARMER.

To GEORGE W. JEFFREYS, Esq. of North Carolina, from Judge PETERS, of Pennsylvania.
Belmont, near Philadelphia, March 1, 1817.

DEAR SIR—I received yesterday, with great pleasure your letter of the 18th ult. I will cheerfully

comply with your request by furnishing, so far as I can, a list of books for an agricultural library.—There must be some subjects of affinity with agriculture, both instructive and amusing! to give variety and temptation to readers, who might think it *per se* heavy and dull. I found this necessary in establishing a library in my neighbourhood; which has had a magical effect in improving the minds, and mending the agricultural practice of many, who would not otherwise have read a page on the subject. Many books are to be had in our country; but Dickson's last edition of his work on agriculture, a new edition of the complete Farmer, Dictionary-wise, and Lord Dundonald's Connexion between Chemistry and Agriculture, are not in our Book-stores. I have sent for some copies, through a Bookseller, Dr. Earle, of our city. You had better lose no time in ordering them, as their arrival will be dilatory. They contain the best body of information on European Husbandry, of any books wherein the subject is digested methodically. Sir Humphrey Davy's Agricultural Chemistry, is to be had in Philadelphia. I mention those as a good beginning for your plan.

I am gratified by every evidence of sensibility to the most important subject to which he can apply either our intellect, or corporeal endeavours. It has been suffered to make its own way; whilst most others have been assisted by public patronage, ambition, cupidity, or love of fame. It will never be brought to system, or advanced in durable improvement, but through the exertions of Societies instituted with such objects in view. More of our citizens of education and talents should devote themselves to the acquirements of knowledge in this art; and particularly where the improvements of large possessions have been neglected; whilst their proprietors have been pursuing objects neither so important, nor, in many instances, so innocent and contributory to their own, and the comforts of their neighbours; and the prosperity of their country. I congratulate you on the dawn of the spirit evinced by the members of your Society, in your part of our country; wherein, if I am not much misinformed, both a scientific and practical attention to the subject, have been heretofore very much wanted. I mention this with regret, not as a reproach; for all of us have a share in such observations be our acquirements, talents, or property, great or small.

Our Society is about publishing another volume.—We are collecting all the facts we can, on the extraordinary phenomena of the past year, and the successor to it, in anomalous circumstances. We shall be obliged by any uncommon facts or occurrences in your quarter of the Union, which have any thing peculiar attending them.

I think, I answered your former letter. I left with Mr. Small, Bookseller, a correspondent of Mr. Gale, at Raleigh, a little attempt at an epitome of Agriculture, and our Almanack for 1818. I have in the latter condensed information on the subject of *salt*, as a manure. I wish you may receive them, and endeavour to have experiments tried with *salt*, which would be highly beneficial, if half what is said of it be true. The great mistake has hitherto been, using it too lavishly. In the epitome, I dwell much on the dactylis, because I know its value; having constantly sown it for a period of 40 years. All beasts are fond of it, both as pasture and hay. It is permanent, whilst clover is short lived. It grows in the shade luxuriantly; and hence it is called Orchard Grass. The English name is Cock-foot. Any soil is suitable, if not wet. A sandy loam of good staple is the fittest.—I generally sow it on my wheat in the autumn, covering the seed (a bushel and a peck to a half, per acre) with the last harrowing. Some sow it in the spring; but I prefer the fall. I sow on my wheat, in February or March, about 6 pounds per acre of red clover; and these plants are ready for the scythe at the same time. The Orchard Grass should be cut for hay when the panicles are fairly formed, and this is about the time when the heads of the clover begin to turn.—For seed, it must be ripe; and some let it stand too long for this purpose; so that the straw is rigid and the leaves dry. It is best to raise a spot pur-

posely for seed; whereof it furnishes great plenty.—It is not a native plant in a poor soil.

The famous Dr. Richardson, the patron and promoter of the culture of *Florin*, which is his passion and never ending delight, could not pay the *Dactylis* a greater compliment, than he does in a publication, 1813, on *Florin Grass*. He says, "were I to follow my own judgment alone, I should have put this grass in the first class." But carried away by his passion for *Florin*, he places it next to it—in the second class. The fact is, that neither grass suits the same soil. *Florin* thrives only in boggy and wet soils, and *Dactylis* in reasonably dry grounds. He had a newspaper dispute with a rival, on the question—who introduced the *Dactylis* first into England? Neither of them made out above 28 years. I had cultivated it here (unremittingly) before either of them knew the plant; without valuing myself on any priority; which it seems was made a point of, by these zealous antagonists. So that you see it was an object deemed worthy the contest, stimulated by agricultural pride.

In the publications I send you, some satisfaction as to some of your questions will probably be found; and if not, I will give any explanations.

I have, the last seed time, after sowing my wheat, scattered on strips, before harrowing in the grain—at the rate of two bushels of plaster to the acre—then salt, at the rate of one and one and a half bushels to the acre—then the seed damped and rolled in plaster—then dung alone. I shall see next harvest the results. I published in Poulson's paper, which may reach you—an account, from Scotland, of wonderful effects in destroying grubs, in an oat crop, by mixing with six bushels of seed oats—a half a peck of salt. The experiment succeeded after repeated trials.

Yours very truly,

RICHARD PETERS.

G. W. JEFFREYS, Esq.

FOR THE AMERICAN FARMER.

December 15th, 1820.

MR. SKINNER,

Your correspondent, *Furius Cresinus*, will greatly oblige me, and many others among your readers, by giving a full and particular statement of his practice and experience in the mode of cultivation, of which he speaks in the following passage of his letter: "I am satisfied by my own practice, that if you turn down a turf in March or April, roll and harrow the surface, plant your corn, and cultivate it with the roller and harrow early, and with the harrow all the season, never touching it with the plough after the planting furrows have been opened, that you may make as good corn, if not better, than if you had used the plough." The important ends which would be attained by substituting the harrow or cultivator for the plough, have induced me to commence a course of experiments, for the purpose of ascertaining to what extent it might be done. I have already satisfied myself, that at least one fourth of the usual labour (of both horses and hoe hands) may be saved, without injury to the crop; but have not yet dared to dispense with the plough altogether. If *Cresinus* can establish the correctness of his opinion, he will thereby point out to us southern corn planters, an improvement more valuable than any other within our reach. Besides the great saving of labour attending such tillage, there would be derived advantages still more important, from securing manure and the vegetable matter on enclosed land from exposure, instead of tearing them up with the plough, almost as soon as they are buried.

The Deagon or Dagon plough, so highly and so justly commended by *Cresinus*, is the same of which inquiry was made by your correspondent. "Arator," page 265, vol. 1. It works easier, and turns the mould with its vegetable covering, more completely, than any other I have ever tried, except in very stubborn soils. Thousands are every year sent to Virginia, from Connecticut, which are cheaper, though not so good as those made by our country ploughwrights. It is strange, that a tool so much used and improved, has not been more noticed in agricultural publications, and (from *Arator's* communication) it seems, is almost unknown in Maryland. The Dagon plough, however, requires such frequent repairs, that I think it will be ultimately superseded by the Freeborn or Wood plough, which works nearly, if not quite as well, and at much less cost.

I wish to be informed by some of your readers, whether *Ducket's Skim-Coulter plough* is used in the United States, and with what advantage: or to be instructed, by what other mode the same operation may be performed. This plough cuts two furrows at once; the first, by means of a piece of iron attached to the coulter, which shares off the surface, and turns it, with all the herbage, into the bottom of the last made furrow: the plough-share following in the same track, cuts a deep furrow free from grass or roots, and with it, covers what was removed by the skim coulter. In this manner, one ploughing is said to put out of the way, effectually, the heaviest coat of vegetable matter, and to leave the land a clear and fine seed bed for the reception of grain. I have frequently attempted to effect the same purpose, by running one plough after another, in the same furrow; but could never succeed in raising the second earth high enough to cover the first, not in cleaning out the furrow sufficiently deep for the reception of the next slice of turf.

I am sorry that my ignorance of agriculture prevents my contributing even a mite of information, in return for all that I am indebted for to your correspondents; otherwise, I would as freely impart instruction, as I now ask it of others.

A NOVICE.

Postscript to General Forman's letter on the cultivation and uses of the Bene plant, inserted page 300 of this volume.

Machinery for an Oil press cannot be expensive, and no doubt the same which is used for Castor Oil, will effectually answer the purpose. It is a powerful screw carried round by a sweep drawn by a horse, and acting upon the grain, secured in an iron box.

Mr. Reybold, who has gone largely into the cultivation of the Castor Bean, has also been very successful in expressing the Oil. At his outset he experienced frequent disappointment from the imperfect construction of the screw and box; he has, however, overcome these difficulties, and his present apparatus, although perfectly simple, is completely effective, and can beseen by calling upon Mr. Philip Reybold, of Marshmont, near New Castle, Delaware.

T. M. F.

On the Disease of Domestic Animals and their Cure.

Diarrhea or Scouring. This disease often happens to horses from eating new oats or hay, and is then of little importance, as it soon ceases when the diet is changed, or when the stomach has become accustomed to such new food; but should it continue, let them drink freely of gruel made of wheat flour; and if this fail, give the astringent ball. When there is reason to suspect that the diarrhoea depends upon worms in the bowels, or other hurtful matter lodged in them, give in the first place a ball composed of two drams of aloes, three drams of rhubarb, and three drams of soap. If it appears to arise from exposure to cold, or from drinking freely of cold water when heated by exercise, sound wispings and warm clothing are proper; gruel also will be found useful. In obstinate diarrhoeas, accompanied by loss of flesh and appetite, and considerable debility, there is generally some disease either of the liver, or other internal part, which generally proves fatal.

Astringent Ball.—Take of Caraway seeds, recently powdered, six drams.

Catechu, two drams.

Ginger, one dram.

Opium, half a dram.

Treacle, enough to form a ball.

This may be repeated the following day, if necessary: the horse continuing to drink the gruel of wheat flour or arrow-root. Some horses of delicate constitutions are attacked with diarrhoeas whenever they are put to any considerable work; such horses should take a cordial ball with the addition of two or three drams of catechu, before they go out; and as soon as they return from hunting or other exercise, which usually brings on the complaint.

Diet.—The best diet, I believe, for horses that work moderately, is good hay and oats; but for such as are employed in more severe labour, beans are certainly useful. Fresh clover hay, cut up as chaff, is a useful addition to either. Horses that are used merely for exercise, and taken out only occasionally, should have bran mashes now and then, or be fed constantly with a mixture of bran and oats; this is particularly necessary if the horse is disposed to costiveness; and in such cases, a little green food or carrots will be of service. Some horses thrive, and look sleek with half the quantity of food, that is required to produce the same appearance in another; such horses should be fed accordingly, and be allowed no more than is really necessary. Horses that feed voraciously and have a craving appetite for water, should be allowed only a moderate quantity of either; and if they eat their litter, they should constantly wear a muzzle, except at the time of feeding. For more particular instructions on this subject the reader may consult the first volume of the *Veterinary Medicine or Farriery*, page 247.—See also *Feeding*.

Recipe for the Rot in Sheep: Young's Annals, vol. 13.

'Give to each sheep one spoonful of spirits of turpentine, mixed with two of water, after fasting twelve hours—let them have three doses, staying six days between each dose; this is said to have been used with success, even in cases where the fleece has been nearly gone, and the throat terribly swelled.'

FOR THE AMERICAN FARMER.

On the Cultivation of Corn, SOWING GRAIN, &c. &c.

December 20th, 1820.

MR. SKINNER,

Your useful and widely circulating paper, not only invites, but creates a sort of moral obligation upon every experienced Agriculturist, to hand in his Experience—"as iron sharpeneth iron, so does the mind of one man sharpen another."

I have been a cultivator both for profit and glory these twenty-five years, and had I time and descriptive qualifications. I could at least amuse practical or fire-side Farmers—but to return to my social obligation of communicating the result of my experience.—Land of every description should be cultivated full eight inches deep, and well mixed—it is then capable of the greatest production, provided (at all times) that care has been taken to dispose of all superabundant water. This, Sir, is the indispensable of farming productively. When land has yielded the desired crop or crops of grain, it should be laid to rest (as farmers say) with plenty of grass upon its surface.—I would advise Timothy and clover, say two quarts of the former and three of the latter. That I may be understood, let me repeat (for the rudiments of no subject or science can be too distinctly explained)—first, lay your land perfectly dry—then plough full eight inches deep, and harrow it well. If the crop desired, be corn, it is recommended to plant it in squares, taking care not to have more plants upon a given space than can find good pasture. By attention to this, the ears will be large, and the grains perfect.—Cultivating in squares keeps the land level, an object never to be lost sight of in our dry climate—it also secures you from the washing influence of heavy rains. A good harrow will keep corn clean, and that is all that is wanting after it be once dressed with the hoe, which should be done as soon as the corn is six inches high.—In seeding small grains—never put too many plants upon a given surface, or they will perish each other, and the grain will be imperfect and chaffy—let the surface be well pulverised and separated, and the fall seed put into the ground as soon in September as you can get a good rain—the nights are then long enough to keep the earth cool and moist.—Spring grain should never be seeded after March—and great care should be taken not to put too many tenants upon a given surface. Though much has been said about deep and shallow seeding, I have found that one inch will do, and do well.—The greatest modern improvement in Agriculture, is that of applying manure to the surface of fresh cultivated land—I mean that in which grain is seeded—this mode of applying manure, ensures the crop of grain, and the clover or other grasses that may follow.

The land I cultivate now gives me from four to five ears of corn, and the same proportion of grass for one that it produced twenty years ago, and I impute this to the difference in ploughing and draining.—Land cannot improve that is not freed from excess of water.

My experiments in regard to ploughs have cost me no small sum of money, and we have many as good as human contrivance is likely to arrive at—it would be unkind to discriminate—I would only protest against those without coulters for breaking up land, unless you use them only when the earth is wet. Particular experiments may be a subject of communication hereafter, but I must beg of you to keep in mind that you will use your own discretion with what I send you. For the present you may know me by the name of a

VIRGINIAN.

Receipt for a Cold.

Take one table-spoonful of sweet oil, one do. of brown sugar, two do. of vinegar, four do. of French brandy, and half do. of Laudanum—one tea spoonful to be taken during the day, and one at going to bed.

Composition of White Wash on Brick Walls.

Take one bushel of best stone lime well powered, one peck of white sand, four pounds of white turpentine (gum,) water enough to make it of the consistence of liquid paint, and when it has been well boiled, add one gallon of new milk; the boiling to be continued very gentle during the application of it. It is suitable for brick walls, which should be swept, or scraped clean previous to the application of this composition.

Receipt for curing Warts.

Take a piece of unslacked lime, and having wetted the top of the wart, rub the lime on two or three times a day, and they will be imperceptibly removed in a short time, without leaving the slightest scar, or any inconvenience being sustained on account of the lime.

Geneva Palladium.

THE FARM

BALTIMORE, FRIDAY, DECEMBER 29, 1820.

Present Prices of Country Produce in this Market.

Actual sales of WHEAT—WHITE, 75 to 80 cts.—RED, 72 to 74 cts.—CORN, 33 to 35 cts.—RYE, 46 cents.—OATS, 26 cents.—FLAX Seed 95 cts. to \$1—BARLEY, 45 to 50 cts.—HAY, per ton \$15 50—STRAW per ton, \$7—FLOUR, from the wagons, \$3 87½—WHISKEY, from do. 33 cts.—BUTTER, per lb. 25 to 31 cts.—EGGS, per dozen 31 cents.—BEEF, per lb. prime pieces, 9 to 10 cts.—VEAL, per lb. 8 cents.—MUTTON, per saddle, 8 to 10 cts.—PORK, hog round, \$5 to \$5 50—TURKEYS, 75 cts. to \$1 50—GESE, 50 to 62½ cents—HAMS, 12 to 14 cts.—MIDDINGS, 10 cts.—POTATOES, per bushel, 87½ cts.—TURNIPS, do. 37½ cts.—LIVE CATTLE, \$6 50.

LONDON WHITE LEAD, \$4 25—AMERICAN do. \$3 75—BOILED OIL, \$1—FEATHERS, 45 to 50 cents.—TAR, \$2—TURPENTINE, soft, \$2 25—SPIRITS, do. 35 cents—PITCH, \$2 25.—LARD 11 to 12 cts.—SHINGLES, best Deep Creek, \$8 50—Do. small, \$4 75—FLOORING PLANK, 5-4, \$27—COTTON, Upland, 16 to 18 cents.

No sales of Virginia or Maryland Tobacco,

HILL SIDE PLOUGHS.

I have on hand, and intend keeping a constant supply of Hill Side Ploughs.

These ploughs are valuable on hilly land, and were originally invented by Colonel Randolph, governor of Virginia, and in my humble opinion, much improved by me; particularly the mould-boards, which are now quicker changed than the share was.

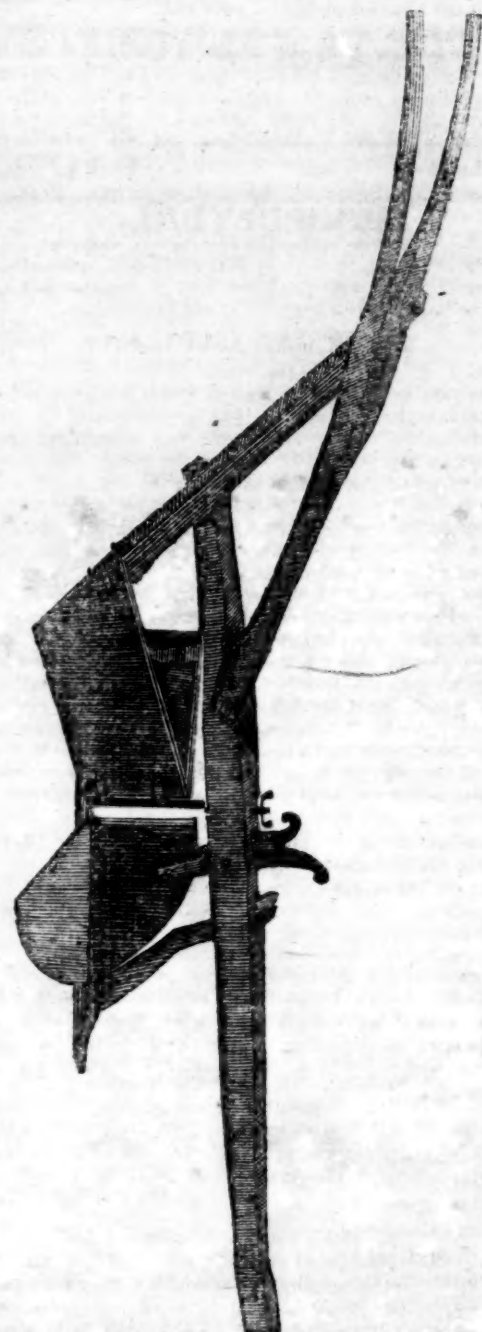
I am not able to explain it better than by adopting the words of Thomas Jefferson to the Agricultural Society of Philadelphia, which are nearly as follows, viz:

"Mr. Randolph has contrived for our steepest hill sides, a simple plough which throws the furrows always down hill. It is made with two wings welded to the bar, with their planes at right angles to each other. The point and heel of the bar becomes an axis, by turning which, either wing may be laid on the ground, and the other then standing vertically acts as a mould-board,—the right angle between them however, is filled with a sloping piece of wood, leaving only a cutting margin of each wing naked, and aiding in the office of raising the sod gradually, while the declivity of the hill facilitates its falling over. The change of the position of the share, at the end of each furrow, is effected in a moment by withdrawing and replacing a pin.

"Such ploughs have been in use in Virginia for nine years. By them the tallest clover is completely turned under on the sides of the steepest hills,—they work from eight to ten inches deep, with two small mules or one stout horse."

ROBERT SINCLAIR.

12 mo. 25th, 1820.



JOSEPH P. CASEY,

Hanover Street, adjoining Barnum's Hotel, has just received an assortment of the

IMPROVED FREEBORN, OR WOOD'S PATENT PLOUGHS.

This Plough received the premium from the New-York County Agricultural Society, over fourteen others that were exhibited. They are put together without Bolts or Screws—are stronger than the old common Freeborn plough—require no repairs, and can be afforded at a much lower rate.

BALTIMORE,

PUBLISHED EVERY FRIDAY,

BY JOHN S. SKINNER EDITOR.